800-TP-004-001

LaRC Release A Installation Plan

Technical Paper - Not intended for formal review or Government approval.

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RESPONSIBLE ENGINEER

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Abstract

This installation plan describes the activities and schedules associated with the relocation of Ir1 and the installation of ECS Release A (TRMM Support) hardware and software. The plan is published to document the agreement between the DAAC and ECS, specifying to the LaRC DAAC personnel and the installation team the requirements, coordination, and preparation needed to ensure the equipment and software relocation and installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. This plan contains a description of the activities, schedule, planned LAN configuration, software and hardware configurations, and planned equipment layouts.

Keywords: Installation, Configuration, Equipment, Floor Plan, LaRC LAN, Planning, Procedures.

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1. Introduction

1.1 Purpose

This plan describes the activities and schedules associated with the relocation of Ir1 equipment and the installation of ECS Release A (TRMM Support) hardware and software. The plan is published to document the agreement between the DAAC and ECS, that occurred during our June 12-13, 1996 meeting, specifying to the LaRC DAAC personnel and the installation team, the requirements, coordination, and preparation needed to ensure the equipment and software installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. This plan contains a description of the activities, installation schedule, planned LAN configuration, software and hardware configurations, and planned equipment layouts.

1.2 Scope

This plan applies the information obtained from a site survey conducted in January 1996. The plan describes the activities for the relocation of the Ir1 hardware and the installation of the Release A materials only. It does not address the total DAAC requirements that have been presented in the ECS Facilities Plan for the ECS Project dated June 1994. That document provided the requirements for space, power, air conditioning and the necessary working environments for equipment and people for the total project years. A white paper update to that plan was published on March 1995 called Facilities Plan for Ir1 and Release A for the ECS Project.

1.3 References

423-41-01	ECS Statement of Work, February 16, 1993
193-003-C04-001	ECS Government Furnished Property, September 1993
193-501-PA1-001	Performance Assurance Implementation Plan for the ECS Project
194-302-DV2-001	ECS Facilities Plan for the ECS Project
194-602-OP1-001	Property Management Plan for the ECS Project, July 1994
302-CD-002-001	SDPS/CSMS Release A and FOS Releases A and B Facilities Plan for the ECS Project, September 1995
305-CD-015-001	Release A LaRC DAAC Design Specification for the ECS Project, August 16, 1995
440-TP-007-001	Production Platform Families for the ECS Project, May 1995
800-WP-001-001	Facilities Plan for Ir1 and Release A for the ECS Project, March 1995

1.4 Organization

This paper is organized as follows:

Section 1 provides the purpose, scope, references, organization, and review /approval.

Section 2 provides the schedule and preparation required for the installation.

Section 3 describes the installation activities along with site unique information such as the DAAC Location, Equipment Configurations, Equipment Specifications, Installation Support Requirements, Floor Plans, and LAN Connectivity,.

1.5 Review and Approval

This Technical Paper is a formal document approved at the Office Manager level. It serves the function of interface control and documents the agreement between ECS and the LaRC DAAC. It requires formal DAAC review and approval. Questions regarding information contained within this paper should be addressed to Timothy E. Wells, ECS Facilities and Installations Planner, (301) 883-4021, twells@eos.hitc.com.

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Roy C. Dunkum /s/ 7/11/96

Roy C. Dunkum Jr., LaRC DAAC Manager, Approval Signature and Date.

Thomas W. Jaeger /s/ 7/12/96

Tom Jaeger, ECS ILS Manager, Approval Signature and Date.

2. Installation Schedule

2.1 Release A Installation Schedule

Release A installation activities will be accomplished at the LaRC site according to the schedule shown in Table 2.1-1. Release A Installation Schedule.

Table 2.1-1. Release A Installation Schedule

DESCRIPTION	DUR	START	END
Conduct Site Survey	3d	1/16/96	1/18/96
Create Installation Plan	10d	4/30/96	6/11/96
Send To LaRC for Review	1d	6/12/96	6/12/96
LaRC Review	1d	6/12/96	6/13/96
Send To ECS (Upper Marlboro, MD)	1d	5/13/96	5/13/96
Finalize Installation Plan	3d	6/13/96	6/15/96
Deliver Installation Plan	3d	6/15/96	6/18/96
LaRC To Prepare Site	45d	6/13/96	8/2/96
Ship Release A Equipment	4d	7/26/96	7/29/96
Install LAN	5d	7/22/96	7/26/96
Relocate Ir1 Equipment	3d	8/15/96	8/23/96
Install Release A Equipment	17d	7/29/96	8/23/96
Configure COTS Software	36d	8/26/96	9/30/96
Integration and Testing	31d	10/1/96	10/31/96
Acceptance Testing	30d	11/1/96	11/30/96

2.2 Installation Hours

This installation will be performed during the DAAC's normal working hours. Although not expected, if installation activities must extend beyond normal work hours, the team leader will

coordinate with the ECS DAAC SE liaison for after-hours access to the facility. It is noted that after hour and weekend installation activities require a Government escort to enter the building.

The team leader will keep the ECS DAAC SE liaison informed of work to be performed and report progress at the end of each day. ECS DAAC SE liaisons should keep the DAAC manager informed, as appropriate. If the team leader expects the installation to fall behind schedule, he will inform the ECS DAAC SE liaison and the ECS ILS Manager.

2.3 Host Facility Preparation

Detailed host facility requirements for the Ir1 relocation and the Release A installation were addressed with the DAAC Manager during site survey conducted in January 1996. Based upon the survey and subsequent detailed installation planning, host facilities are requested to use the information contained in this document to provide the following in support of the Release A installation:

- Computer floor and office space for the Release A equipment and personnel;
- UPS, Conditioned power, heating, and air conditioning;
- Storage for technical documentation, master copies of COTS SW, and consumables;
- Materials handling equipment ;
- Physical security (reference Facilities Plan for Release A and Release A White Paper, section 2.5.1, page 2-5).

2.4 Host Facility Material Moving Equipment Support

The following material moving equipment will be required to assist with the installation of equipment:

- Pallet jack
- Hand cart
- Tile pullers

2.5 LaRC Communications Unit Responsibilities

The VO Network Administrator has been briefed as to where the designated Ir1 equipment is to be relocated. It is the responsibility of the VO Network Administrator to install the LAN that will connect the Ir1 equipment that is to be relocated. The VO Network Administrator will also be responsible for the installation of fiber optic cable from the EBNET Router, Campus Network Router, NSI Router and VO Router to ECS provided FDDI Switch.

3. Installation Activities

3.1 Installation Team Composition

The installation team will be comprised of the following personnel:

- Team Leader - Bob Byrnes
- Communications Engineer - Gary Lampkin
- Installation Engineers - Craig Johnson and Aaron Drunsic
- Software Engineers - Bruce Clark and Ron Parham
- Silicon Graphics Installation Personnel (Local Hampton, VA SGI representative Bill Henderson will be responsible for the SGI installations.)
- EMASS Installation Personnel (Quantity and names to be provided via E-mail two weeks before the installation.)

3.2 Installation Team Responsibilities

Following are ECS installation team member functions:

- Team Leader --Manages and coordinates installation activities and resources to ensure successful completion of the installation on schedule. The team leader will keep the DAAC management informed (through the ECS DAAC SE liaison) of the installation progress.
- Communications Engineers--Install the LAN cables and provides connectivity of the Release A equipment. This includes labeling, installing, and testing the cables and coordinating connection to the LAN. The communication engineer works with the Network administrator to ensure device names are in the domain name server and that all the IP addresses are active. At the completion of the installation he will verify connectivity to the EDF and coordinate activation of the DCE cells.
- Installation Engineers -- Responsible for the installation of computers, peripherals, system configuration, and unit and integration testing. They will install the devices in the locations specified in the floor plan developed by the ECS team and approved by the DAAC manager.
- ECS SE DAAC Liaison -- Will coordinate all activities between the DAAC Manager and the Installation Team Leader.
- Vendor Engineers -- Silicon Graphics and EMASS technicians will install their equipment and software under supervision of the ECS installation team leader. Names of vendor installation personnel will be furnished to the ECS DAAC SE liaison prior to the installation date. ECS DAAC SE liaisons should coordinate with local security personnel for team access to the site and/or facility.

3.3 HW/SW Installation

The installation team will arrive at the DAAC facility at 8:30 AM on the scheduled installation date. Their initial activity will consist of an inbrief to and coordination of schedule with the ECS DAAC SE liaison.

3.3.1 LAN

Local network cables will be the first thing to be installed. The facility's CNE network engineer should be available to assist the installation team on any specifics for connecting the Release A equipment to the EBNET router.

3.3.2 Installation of SGI Processors and EMASS AML Systems

The SGI science processors will be installed by SGI factory trained technicians, currently planned to start on the second day if needed. The EMASS Automated Media Library will be installed by EMASS factory trained technicians and they will start on the first day. The vendors activity at the site will be coordinated and supervised by the ECS installation team leader. (See Table 2.1-1, line 12.)

3.3.3 Unit and Integration Testing

Equipment and operating system software will be installed, configured, and tested for proper operation and integration with the network and associated peripherals.

3.3.4 Network Test to Upper Marlboro, MD. (EDF)

When the installation is finished, connectivity through the EBNET Router to the EDF in Upper Marlboro, MD will be verified.

3.4 Equipment Location Address

The address where the equipment will be installed is NASA/LaRC, Building 1268C Room 2303, 2 South Wright Street, Hampton VA. 23681.

3.5 Cleanup

The installation team will remove waste material from the installation site daily. All shipping containers and packing materials will be disposed of in or adjacent to the dumpster at the loading dock. The DAAC should provide means for its disposal.

3.6 Team Departure

The installation team will depart the site once unit and integration tests have concluded that the equipment is functional, properly configured, networked and the ECS DAAC liaison has signed for the equipment, operating systems software, and documentation.

3.7 LaRC Equipment Configurations

Figure 3.7-1 below identifies the Release A hardware and software to be installed at the LaRC DAAC. The drawing summarizes the hardware and software configuration for each subsystem.

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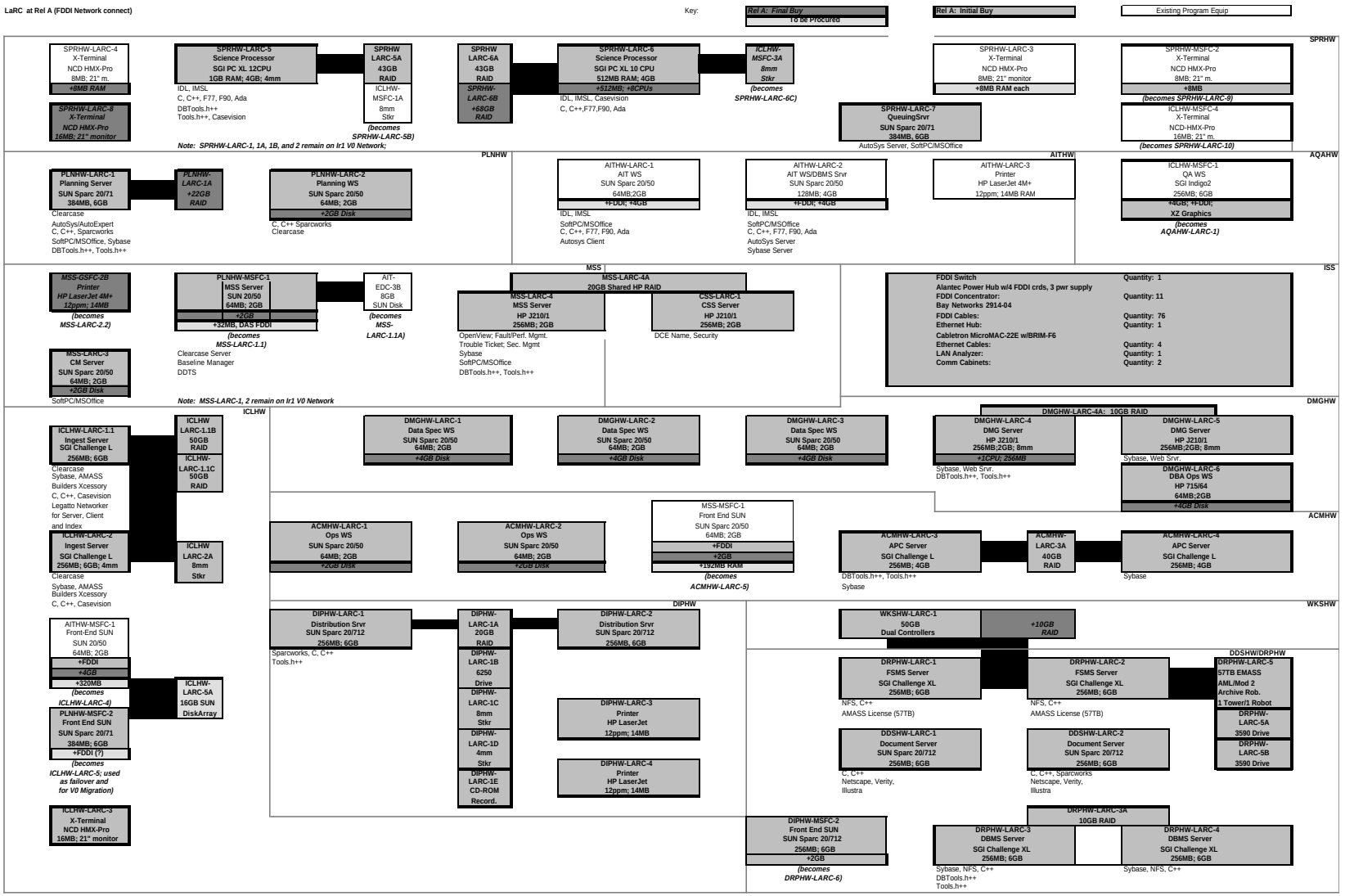


Figure 3.7-1. LaRC Equipment Configuration

Figure 3.7-2 identifies the Release A M&O hardware and software to be installed at the LaRC DAAC for use by LaRC M&O personnel (regardless of their employer). The drawing summarizes the hardware and software configuration for each subsystem.

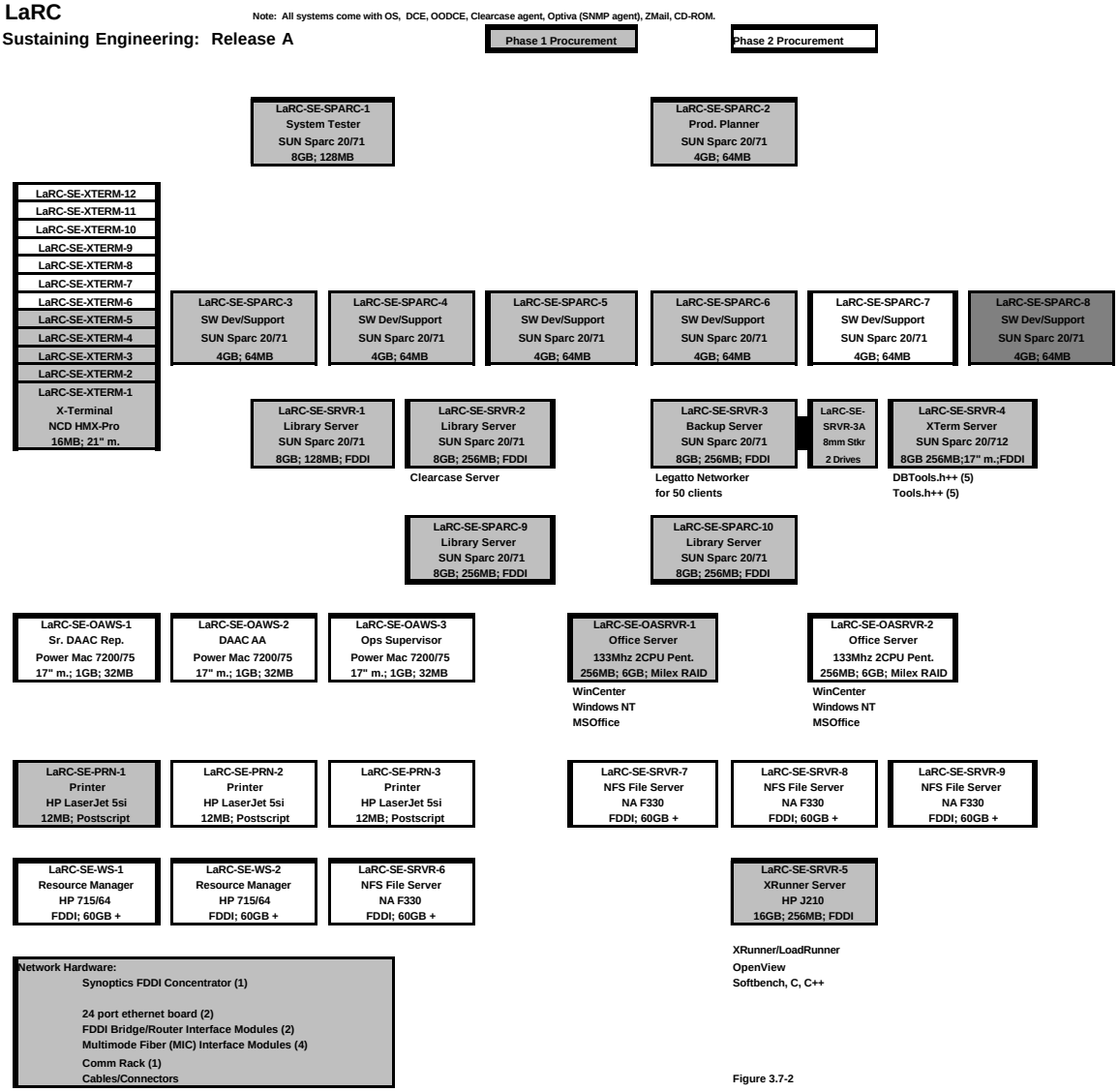
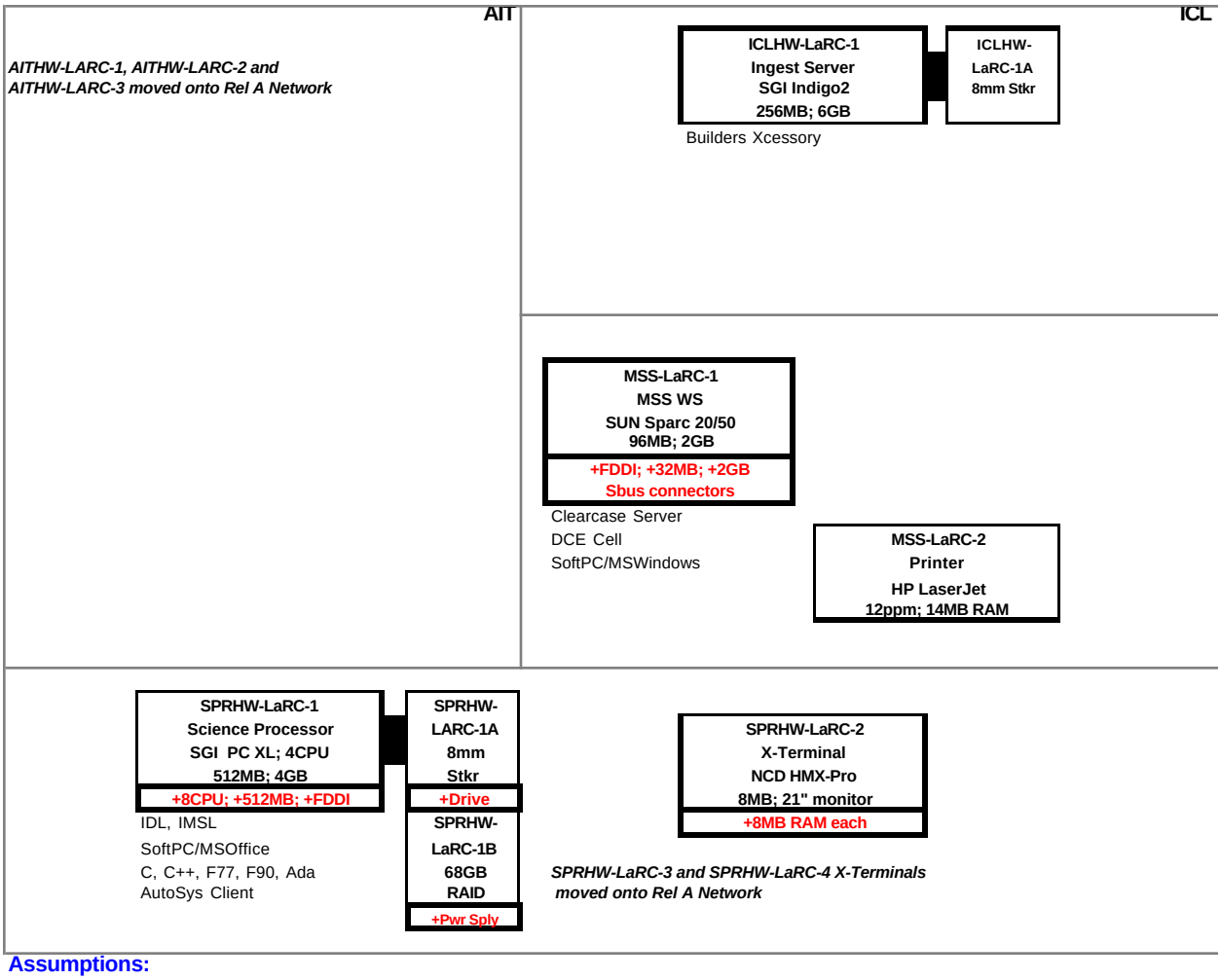


Figure 3.7-2. LaRC M&O Sustaining Engineering Equipment

Figure 3.7-3 identifies Ir1 equipment, which will be relocated to its new facility and will remain on the VO Network to continue support of Ir1 testing until it is discontinued. At that time, Ir1 equipment will be reallocated for other ECS purposes



Assumptions:

- **Ir1 Configuration remains intact to support CERES and DAAC**
- **Ir1 Configuration remains on V0 LAN, but needs to be taken down temporarily to relocate (new building)**

Figure 3.7-3. LaRC Ir1 Hardware and Software Configurations

Table 3.7-1 below identifies the locations for Release A equipment.

Table 3.7-1. Release A and Ir1 Equipment Locations (1 of 4)

ID CODE	DEVICE NAME	DEVICE TYPE	LOCATION	USER
65	AIT-1	Sun Sparc 20/50	Room 2303 Cube A	SSI&T
65	AIT-2	Sun Sparc 20/50	2303 Computer Room	SERVER
29	AIT-3	HP PRINTER	Room 2303 Cube A	SSI&T
65	ACM-1	Sun Sparc 20/50	2303 Computer Room	ARCHIVE MGMT
65	ACM-2	Sun Sparc 20/50	Room 2302	INGEST TECH
62	ACM-3	SGI Challenge L	2303 Computer Room	
38	ACM-3A	RAID-SGI-1	2303 Computer Room	
62	ACM-4	SGI Challenge L	2303 Computer Room	
65	ACM-5 (MSS-MSFC-1)	Sun Sparc 20/50	2303 Computer Room	
60	AQA-1 (ICL-MSFC-1)	SGI Indigo2	Room 1328 Table	DATA SPEC
57	DDS-1	Sun Sparc 20/712	2303 Computer Room	
57	DDS-2	Sun Sparc 20/712	2303 Computer Room	
65	DMG-1	Sun Sparc 20/50	Room 1328 Table	DATA SPECIALIST
65	DMG-2	Sun Sparc 20/50	Room 1328 Table	USO
65	DMG-3	Sun Sparc 20/50	Room 1328 Table	USO
58	DMG-4	HP 9000 J Series	2303 Computer Room	
35	DMG-4A	RAID-HP-1	2303 Computer Room	
58	DMG-5	HP 9000 J Series	2303 Computer Room	
73	DMG-6	HP 715/64	Room 2303 Cube F	DBA
57	DIP-1	Sun Sparc 20/712	Room 2302	
38	DIP-1A	RAID-SUN-1	Room 2302	
6	DIP-1B	EX DR 6250	Room 2302	
7	DIP-1C	8MM STKR	Room 2302	
5	DIP-1D	4MM STKR	Room 2302	
14	DIP-1E	CD-ROM Encoder/writer	Room 2302	
57	DIP-2	Sun Sparc 20/712	Room 2302	
29	DIP-3	HP PRINTER	Room 2302	
29	DIP-4	HP PRINTER	Room 2302	
63	DRP-1	SGI Challenge XL	2303 Computer Room	FSMS
63	DRP-2	SGI Challenge XL	2303 Computer Room	FSMS
38	WKS-1	RAID-SGI-1	2303 Computer Room	
63	DRP-3	SGI Challenge XL	2303 Computer Room	DBMS
38	DRP-3A	RAID-SGI-1	2303 Computer Room	
63	DRP-4	SGI Challenge XL	2303 Computer Room	DBMS
9	DRP-5	AML/2 Tall	2303 Computer Room	
4	DRP-5A	3590 DRIVE	2303 Computer Room	

Table 3.7-1. Release A and Ir1 Equipment Locations (2 of 4)

ID CODE	DEVICE NAME	DEVICE TYPE	LOCATION	USER
4	DRP-5B	3590 DRIVE	2303 Computer Room	
57	DRP-6 (DIP-MSFC-2)	Sun Sparc 20/712	2303 Computer Room	
60	ICL-1 (Ir1)	Indigo2	Room 2302	INGEST TECH
7	ICL-1A (Ir1)	8MM STKR	Room 2302	INGEST TECH
62	ICL-1.1	SGI Challenge L	Room 2302	
39	ICL-1.1B	RAID-SGI-2	Room 2302	
39	ICL-1.1C	RAID-SGI-2	Room 2302	
62	ICL-2	SGI Challenge L	Room 2302	
7	ICL-2A	8MM STKR	Room 2302	
77	ICL-3	Xterm	Room 2302	INGEST TECH
65	ICL-4 (AIT-MSFC-1)	Sun Sparc 20/50	Room 2302	
66	ICL-5 (PLN-MSFC-2)	Sun Sparc 20/71	Room 2302	
84	ICL-5A	Sun Disk Array	Room 2302	
65	MSS-1 (Ir1)	Sun Sparc 20/50	2303 Computer Room	
29	MSS-2 (Ir1)	HP PRINTER	2303 Computer Room	
65	MSS-1.1 (PLN-MSFC-1)	Sun Sparc 20/50	2303 Computer Room	
84	MSS-1.1A (AIT EDC-3B)	8GB SUN DISK	2303 Computer Room	
29	MSS-2.2 (MSS-GSFC-2B)	HP PRINTER	2303 Computer Room	
65	MSS-3	Sun Sparc 20/50	2303 Computer Room	SYSTEM ADMIN
58	MSS-4	HP 9000 J Series	2303 Computer Room	
35	MSS-4A	RAID-HP-1	2303 Computer Room	
58	CSS-1	HP 9000 J Series	2303 Computer Room	
66	PLN-1	Sun Sparc 20/71	2303 Computer Room	
42	PLN-1A	RAID-SUN-1	2303 Computer Room	
65	PLN-2	Sun Sparc 20/50	Room 2303 Cube D	RESOURCE PLANNER
51	SPR-1 (Ir1)	SGI PC XL	2303 Computer Room	
7	SPR-1A (Ir1)	8MM STKR	2303 Computer Room	
39	SPR-1B (Ir1)	RAID-SGI-2	2303 Computer Room	
77	SPR-2 (Ir1)	Xterm	Room 1307	SSI&T-Ir1
77	SPR-3	Xterm	Room 1328 Cube F	SSI&T
77	SPR-4	Xterm	2303 Computer Room	PROD MONITOR
51	SPR-5	SGI PC XL	2303 Computer Room	
39	SPR-5A	RAID-SGI-2	2303 Computer Room	
7	SPR-5B	8MM STKR	2303 Computer Room	
51	SPR-6	SGI PC XL	2303 Computer Room	
39	SPR-6A	RAID-SGI-2	2303 Computer Room	
39	SPR-6B	RAID-SGI-2	2303 Computer Room	

Table 3.7-1. Release A and Ir1 Equipment Locations (3 of 4)

ID CODE	DEVICE NAME	DEVICE TYPE	LOCATION	USER
7	SPR-6C	8MM STKR	2303 Computer Room	
66	SPR-7	Sun Sparc 20/71	2303 Computer Room	QUEING SERVER
77	SPR-8	Xterm	Room 1328 Cube R	SSI&T
77	SPR-9 (SPR-MSFC-2	Xterm	Room 1328 Cube S	SSI&T
77	SPR-10 (ICL-MSFC-4)	Xterm	Room 1328 Cube E	SSI&T
66	SE-SPARC-1	Sun Sparc 20/71	Room 2303 Cube B	SYSTEM TESTER
66	SE-SPARC-2	Sun Sparc 20/71	Room 2303 Cube J	PROD. PLANNER
66	SE-SPARC-3	Sun Sparc 20/71	Room 1328 Cube P	SW DEV/SUPPORT
66	SE-SPARC-4	Sun Sparc 20/71	Room 1328 Cube R	SW DEV/SUPPORT
66	SE-SPARC-5	Sun Sparc 20/71	Room 1328 Cube S	SW DEV/SUPPORT
66	SE-SPARC-6	Sun Sparc 20/71	Room 1328 Cube E	SW DEV/SUPPORT
66	SE-SPARC-7	Sun Sparc 20/71	Room 1328 Cube F	SW DEV/SUPPORT
66	SE-SPARC-8	Sun Sparc 20/71	Room 1328 Cube G	CM
66	SE-SPARC-9	Sun Sparc 20/71	2303 Computer Room	PROD MONITOR
66	SE-SPARC-10	Sun Sparc 20/71	2303 Computer Room	PROD MONITOR
66	SE-SRVR-1	Sun Sparc 20/71	2303 Computer Room	LIBRARY SERVER
66	SE-SRVR-2	Sun Sparc 20/71	2303 Computer Room	LIBRARY SERVER
66	SE-SRVR-3	Sun Sparc 20/71	2303 Computer Room	BACKUP SERVER
7	SE-SRVR-3A	8MM STKR	2303 Computer Room	BACKUP SERVER
57	SE-SRVR-4	Sun Sparc 20/712	2303 Computer Room	XTERM SERVER
58	SE-SRVR-5	HP 9000 J Series	2303 Computer Room	XRUNNER SERVER
110	SE-SRVR-6	NA F330	M&O Comm Rack	NFS FILE SERVER
57	SE-SRVR-7	Sun Sparc 20/712	2303 Computer Room	XTERM SERVER
57	SE-SRVR-8	Sun Sparc 20/712	2303 Computer Room	XTERM SERVER
57	SE-SRVR-9	Sun Sparc 20/712	2303 Computer Room	XTERM SERVER
109	SE-OASRVR-1	ALR (Pentium PRO)	2303 Computer Room	OFFICE SERVER
109	SE-OASRVR-2	ALR (Pentium PRO)	2303 Computer Room	OFFICE SERVER
77	SE-XTERM-1	Xterm	Room 1305	SE-TERM
77	SE-XTERM-2	Xterm	Room 1305	SE-TERM
77	SE-XTERM-3	Xterm	Room 1306	SE-TERM
77	SE-XTERM-4	Xterm	Room 1307	SW-TERM
77	SE-XTERM-5	Xterm	Room 1306	SW-TERM
77	SE-XTERM-6	Xterm	Room 1307	SW-TERM
77	SE-XTERM-7	Xterm	Room 1319	ORPA-TERM
77	SE-XTERM-8	Xterm	Room 2303 Cube K	SA-TERM
77	SE-XTERM-9	Xterm	Room 2303 Cube M	SA-TERM
77	SE-XTERM-10	Xterm	Room 1319	PROP-TERM
77	SE-XTERM-11	Xterm	2303 Computer Room	H/W MAINTENANCE
77	SE-XTERM-12	Xterm	2303 Computer Room	CPTR OPS
29	SE-PRN-1	HP PRINTER	Room 1317	PRINTER
29	SE-PRN-2	HP PRINTER	Room 1306	PRINTER

Table 3.7-1. Release A and Ir1 Equipment Locations (4 of 4)

ID CODE	DEVICE NAME	DEVICE TYPE	LOCATION	USER
29	SE-PRN-3	HP PRINTER	Rm 2303 near Cube G	PRINTER
107	SE-OAWS-1	Pwr Mac 7200/75	Room 1316	SR. DAAC REP
107	SE-OAWS-2	Pwr Mac 7200/75	Room 1317	DAAC AA
107	SE-OAWS-3	Pwr Mac 7200/75	Room 2303 Cube N	OPS SUPERVISOR
73	SE-WS-1	HP 715/64	2303 Computer Room	RESOURCE MGR
73	SE-WS-2	HP 715/64	2303 Computer Room	RESOURCE MGR

Table 3.7-2. Electrical Requirements, BTU Requirements, Dimensions, Weight, and Power Requirements for Release A and Ir1 Equipment.

ID CODE	MODEL	ITEM DESCRIPTION	VENDOR	Type Receptacle	BTU/ HR	Depth (In)	Width (In)	Height (In)	Weight(lbs)	Mfgr KVA	AC Volts	Ck Brk Rating	Phases
4	B 1A	3590 Tape Drive	IBM	NEMA 5-20R	1023.9	29.8	8.8	10.5	63	0.3	120	20	1
5	Spectra 4000/20	4mm Tp Dr	ECCS	NEMA 5-20R	1877.2	26	17	7	56	0.55	120	20	1
6	TU81E-SA	1600/6250 BPI Tp Drv	DEC	NEMA 5-20R	1706.5	22	30	22	47	0.5	120	20	1
7	EXB-210TW/8505S	Tape Stacker (8mm)	EXABYTE	NEMA 5-20R	682.6	22	10	22	78.5	0.2	120	20	1
9	AML/2-Tall	EMASS Archive Tape Library	EMASS	NEMA L5-20R	5733.8	156	156	92.7	8686	1.68	120	20	3
14	WOCDROM	CD-ROM Encoder/Writer	JVC	NEMA 5-20R	1023.9	12	9	17	40	0.3	120	20	1
23	2914-04	FDDI Concentrator	Bay Networks	NEMA 5-20R	1638.2	16	17	3.5	18	0.48	120	20	1
24	7310-00	FIDDI Switch Router	Alantec	NEMA 5-20R	7372.1	17	17	12.5	70	2.16	120	20	1
27	MICROMAC-22E	Ethernet Switch/Hub	Cabletron	NEMA 5-20R	1638.2	14	17	3	7	0.48	120	20	1
28	LAN Analyzer	LAN Analyzer	NetworkGeneral	NEMA 5-20R	3071.7	8	17	10	32	0.9	120	20	1
29	Laserjet Printer	Laser Printer 12ppm	HP	NEMA 5-20R	3754.3	21	19	13	52	1.1	120	20	1
33	COMMRACK	Comm.Rack24"W/30"D/72"H	BRANCH	NEMA 5-20R	0	30	24	72	100	0	120	20	1
35	HP 9000 MOD 10	RAID w/1-40GB (W/2.1DR)	HP	NEMA 5-20R	3071.7	30	11	25	156	0.9	120	20	1
38	Challenge RAID (2.1DR)	RAID w/1-40 GB	SGI	NEMA 5-20R	3071.7	30	14	25	176	0.9	120	20	1
39	Challenge RAID (4.3DR)	RAID w/41-80GB	SGI	NEMA 5-20R	3071.7	30	14	25	176	0.9	120	20	1
42	SPARCSTOR 100	RAID w/1-60GB (4.3DR) x 3	Sun	NEMA 5-20R	2764.5	16	8	27	45	0.81	120	20	1
51	PC XL >8CPUs	Science Processor w/>8 CPUs	SGI	NEMA L6-30R	16007	48	27	63	400	4.69	208	30	1
57	SUN SPARC 20/712	SUN SPARC 20/712	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
58	HP 9000 J Series	HP 9000 J Series	HP	NEMA 5-20R	3686	20	11	18	92	1.08	120	20	1
62	Challenge L	SGI Challenge L	SGI	NEMA 5-20R	7508.6	32	21	26	160	2.2	120	20	1
63	Challenge XL	SGI Challenge XL	SGI	NEMA L6-30R	14574	48	27	63	400	4.27	120	30	1
65	SUN SPARC 20/50	SUN SPARC 20/50	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
66	SUN SPARC 20/71	SUN SPARC 20/71	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
70	ULTRA 140 OR 170	ULTRA 140 OR 170	Sun	NEMA 5-20R	3071.7	20	19	22	107.3	0.9	120	20	1
73	HP 715/64	HP 715/64	HP	NEMA 5-20R	2593.9	20	11	18	140	0.76	120	20	1
74	SGI Indy	SGI Indy	SGI	NEMA 5-20R	2047.8	19.7	18.5	21.5	97.4	0.6	120	20	1
77	HMX20	X-Terminal	NCD	NEMA 5-20R	682.6	20	19	22	80.9	0.2	120	20	1
81	DISK29 SUN	4.2 and 8.4 GB DISK	SUN	NEMA 5-20R	682.6	10	11	5.7	17	0.2	120	20	1

3.8 Installation Support Requirements

Table 3.8-1 identifies the support required from the host site to accomplish the LaRC Ir1 and Release A installations.

Table 3.8-1. LaRC Installation Support Requirements Room 2303 (OPS AREA)

Qty	Description	Code*	Date Req'd
Items required for room 2303			
60	4" round cutout in floor tiles	#	7/29/96
4	1" hole drilled in floor tiles	$	7/29/96
3	12"x12" center hole tile cutouts with finished edges	+	7/29/96
64	Network Nodes	N	7/29/96
66	NEMA 5-20R Quad. Receptacles	1	7/29/96
0	NEMA 5-20R Duplex. Receptacles	2	7/29/96
4	NEMA L6-30R Receptacle	3	7/29/96
2	NEMA IGL5-30	4	7/29/96
3	NEMA L5-30R Receptacle	5	7/29/96
48	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
50	Swivel Office Chair	NA	7/29/96
1	Printer Tables	NA	7/29/96
15	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
5	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		

Table 3.8-2. LaRC Installation Support Requirements for Room 2303 Cubicles

Items required for Room 2303 Cubicles			
9	1" hole drilled in floor tiles	$	7/29/96
0	12"x12" center hole tile cutouts with finished edges	+	7/29/96
9	Network Nodes	N	7/29/96
9	NEMA 5-20R Duplex	1	7/29/96
0	NEMA 5-20R Duplex. Receptacles	2	7/29/96
0	NEMA L6-30R Receptacle	3	7/29/96
0	NEMA IGL5-30	4	7/29/96
0	NEMA L5-30R Receptacle	5	7/29/96
11	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
11	Swivel Office Chair	NA	7/29/96
1	Printer Tables	**NA**	7/29/96
3	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
0	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		

Table 3.8-3. LaRC Installation Support Requirements Room 2302

Qty	Description	Code*	Date Req'd
Items required for room 2302			
13	4" round cutout in floor tiles	#	7/29/96
0	12"x12" center hole tile cutouts with finished edges	+	7/29/96
14	Network Nodes	N	7/29/96
18	NEMA 5-20R Quad. Receptacles	1	7/29/96
0	NEMA 5-20R Duplex. Receptacles	2	7/29/96
0	NEMA L6-30R Receptacle	3	7/29/96
0	NEMA IGL5-30	4	7/29/96
0	NEMA L5-30R Receptacle	5	7/29/96
10	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
6	Swivel Office Chair	NA	7/29/96
0	Printer Tables	NA	7/29/96
15	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
5	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
4	Packaging and shipping tables	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		

Table 3.8-4. LaRC Installation Support Requirements for Maintenance Room

Items required for Maintenance Room			
4	4" round cutout in floor tiles	#	7/29/96
0	12"x12" center hole tile cutouts with finished edges	+	7/29/96
4	Network Nodes	N	7/29/96
9	NEMA 5-20R Quad. Receptacles	1	7/29/96
0	NEMA 5-20R Duplex. Receptacles	2	7/29/96
0	NEMA L6-30R Receptacle	3	7/29/96
0	NEMA IGL5-30	4	7/29/96
0	NEMA L5-30R Receptacle	5	7/29/96
2	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
2	Swivel Office Chair	NA	7/29/96
1	Printer Tables	NA	7/29/96
3	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
1	Technical Work Bench**	NA	7/29/96
3	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		
NOTE:	**** Part Number 996613 Page 250 of McMaster-Carr Supply Company Catalog**		**(908) 329-3200 - Sales (908) 329-3772 - Fax**

Table 3.8-5. LaRC Installation Support Requirements Room 1328

Qty	Description	Code*	Date Req'd
Items required for room 1328			
10	1" hole drilled in floor tiles	$	7/29/96
2	4" round cutout in floor tiles	#	7/29/96
0	12"x12" center hole tile cutouts with finished edges	+	7/29/96
14	Network Nodes	N	7/29/96
4	NEMA 5-20R Quad. Receptacles	1	7/29/96
14	NEMA 5-20R Duplex. Receptacles	2	7/29/96
0	NEMA L6-30R Receptacle	3	7/29/96
0	NEMA IGL5-30	4	7/29/96
0	NEMA L5-30R Receptacle	5	7/29/96
57	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
17	Swivel Office Chair	NA	7/29/96
1	Printer Tables	**NA**	7/29/96
5	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
2	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		

Table 3.8-6. LaRC Installation Support Requirements for First Floor Offices

Items required for First Floor Offices			
19	Data Jacks	%	7/29/96
0	12"x12" center hole tile cutouts with finished edges	+	7/29/96
19	Network Nodes	N	7/29/96
19	NEMA 5-20R Duplex	1	7/29/96
0	NEMA 5-20R Duplex. Receptacles	2	7/29/96
0	NEMA L6-30R Receptacle	3	7/29/96
0	NEMA IGL5-30	4	7/29/96
0	NEMA L5-30R Receptacle	5	7/29/96
0	NEMA 5-20R Quad. Receptacles	6	7/29/96
17	Computer Table 60" x 30" or suitable worksurface	NA	7/29/96
34	Swivel Office Chair	NA	7/29/96
2	Printer Tables	NA	7/29/96
9	Bookcase 3'W x 6'H 10"D (for technical documentation)	NA	7/29/96
0	Storage Cabinet (5 shelf) (for consumables/SW)	NA	7/29/96
NOTE:	*** Codes correspond to codes on the floor plan at Figure 3-9-1, 3.9-2, 3.9-3, 3.9-4 and 3.9-5.**		

3.9 Floor Plans for LaRC

Figure 3.9-1 depicts the planned placement of relocated Ir1 and Release A equipment in Room 2303 (OPS AREA) of the LaRC facility and identifies the locations at which furniture, floor tile cutouts and power receptacles must be placed. Equipment ID Codes are located in Table 3.7-1 and Table 3.7-2.

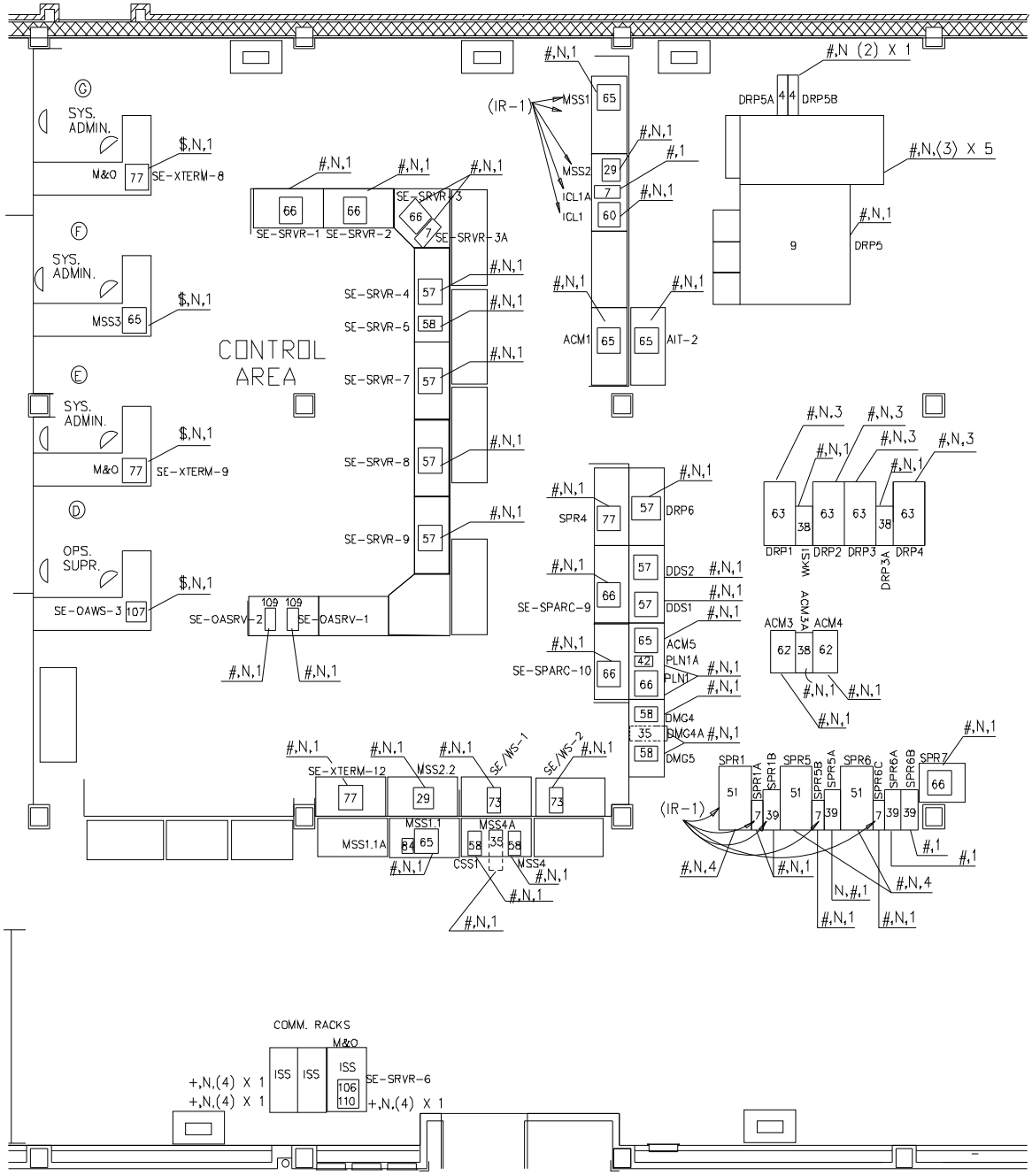


Figure 3.9-1. Floor Plan for LaRC (Ops Area)

Figure 3.9-2 depicts the planned placement of relocated Ir1 and Release A equipment in Room 2303 cubicles and the maintenance area of the LaRC facility. This figure identifies the locations at which furniture, floor tile cutouts and power receptacles must be placed. Equipment ID Codes are located in Table 3.7-1 and Table 3.7-2

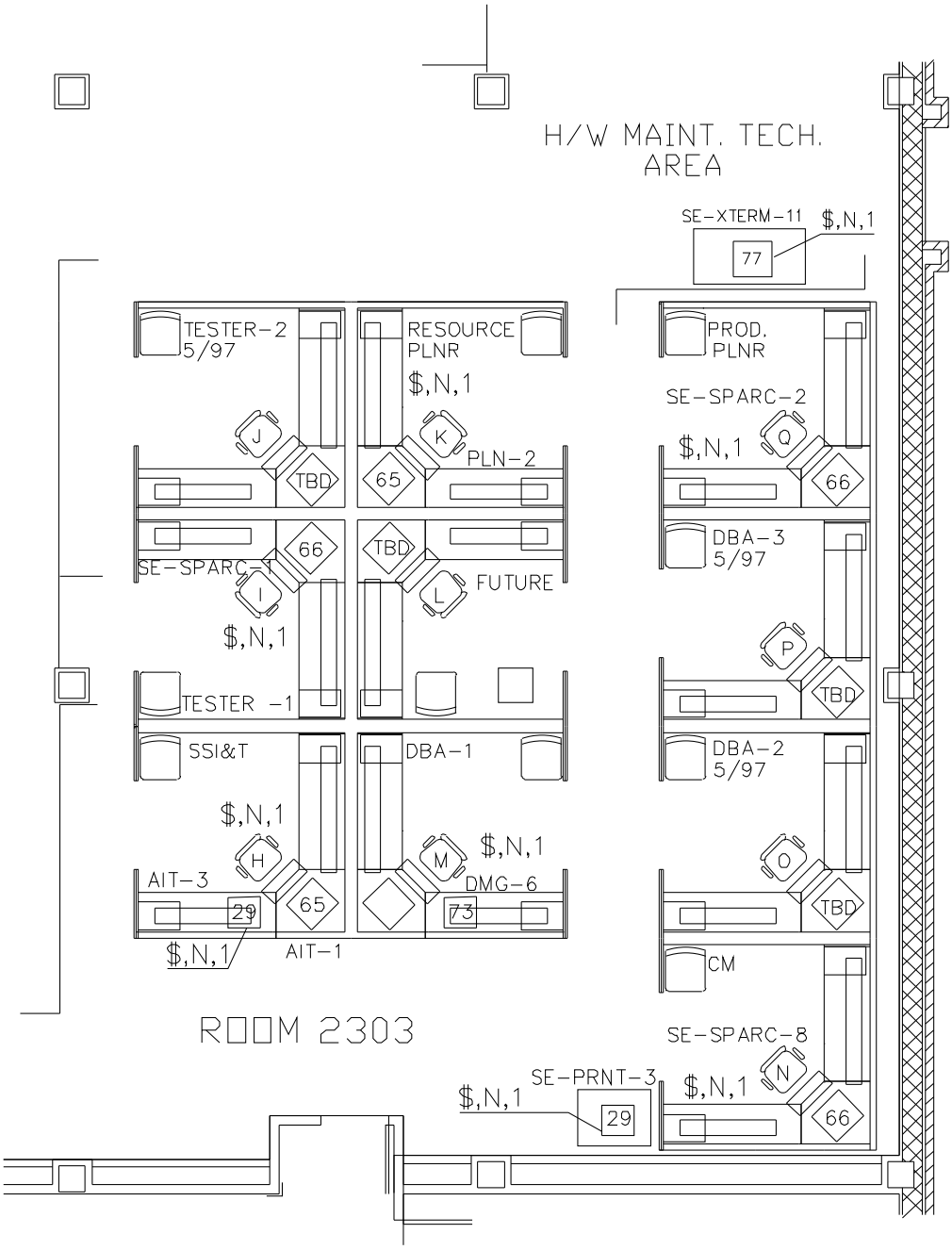


Figure 3.9-2

Figure 3.9-2. Floor Plan for LaRC (Room 2303 Cubicles)

Figure 3.9-3 depicts the planned placement of relocated Ir1 and Release A equipment in Room 2302 of the LaRC facility. This figure identifies the locations at which furniture, floor tile cutouts and power receptacles must be placed. Equipment ID Codes are located in Tables 3.7-1 and 3.7-2.

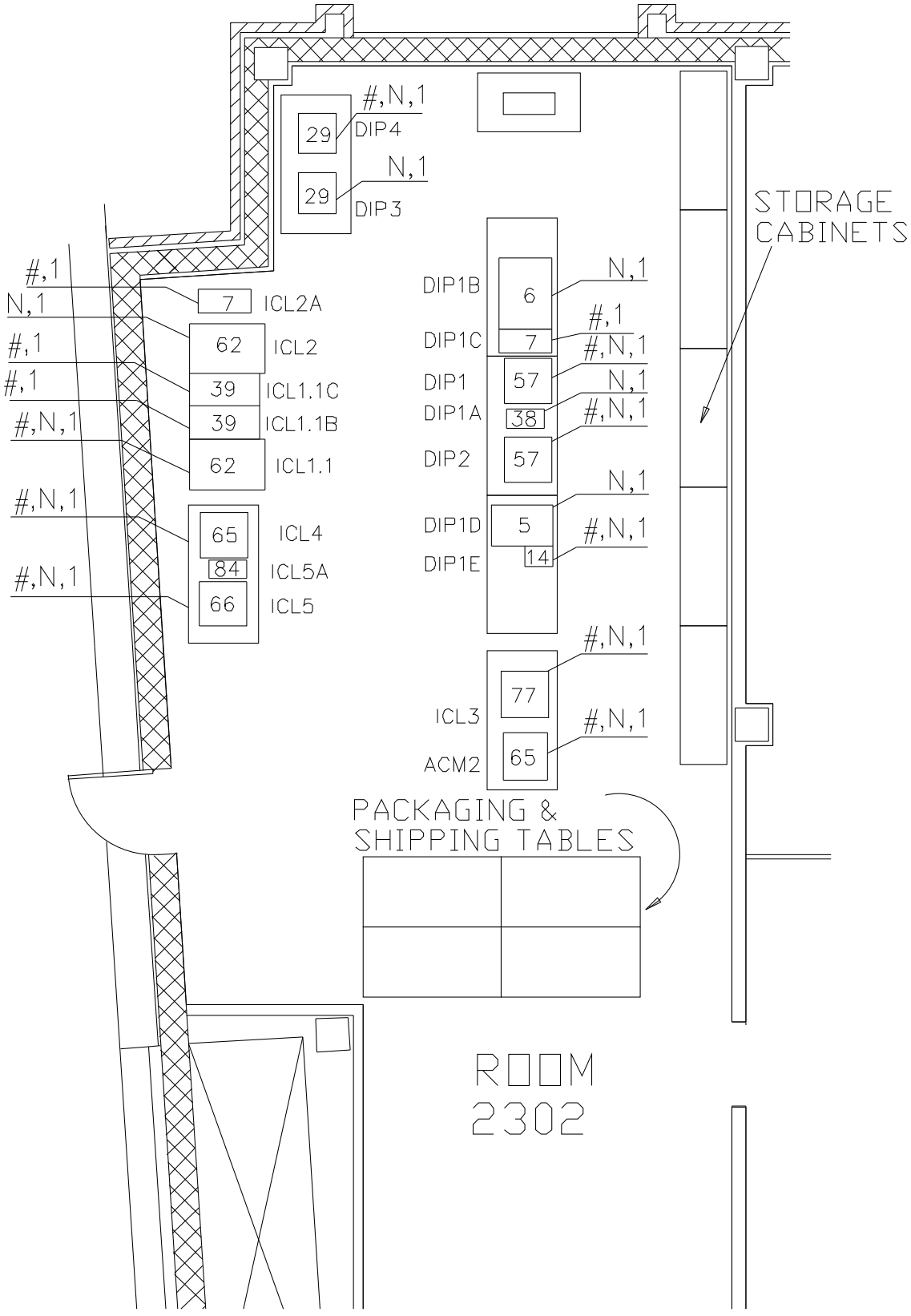


Figure 3.9-3. Floor Plan for LaRC (Room 2302)

Figure 3.9-4 depicts the planned placement of relocated Ir1 and Release A equipment in Room 1328 of the LaRC facility This figure identifies the locations at which furniture, data jacks, and power receptacles must be placed. Equipment ID Codes are located in Tables 3.7-1 and 3.7-2.

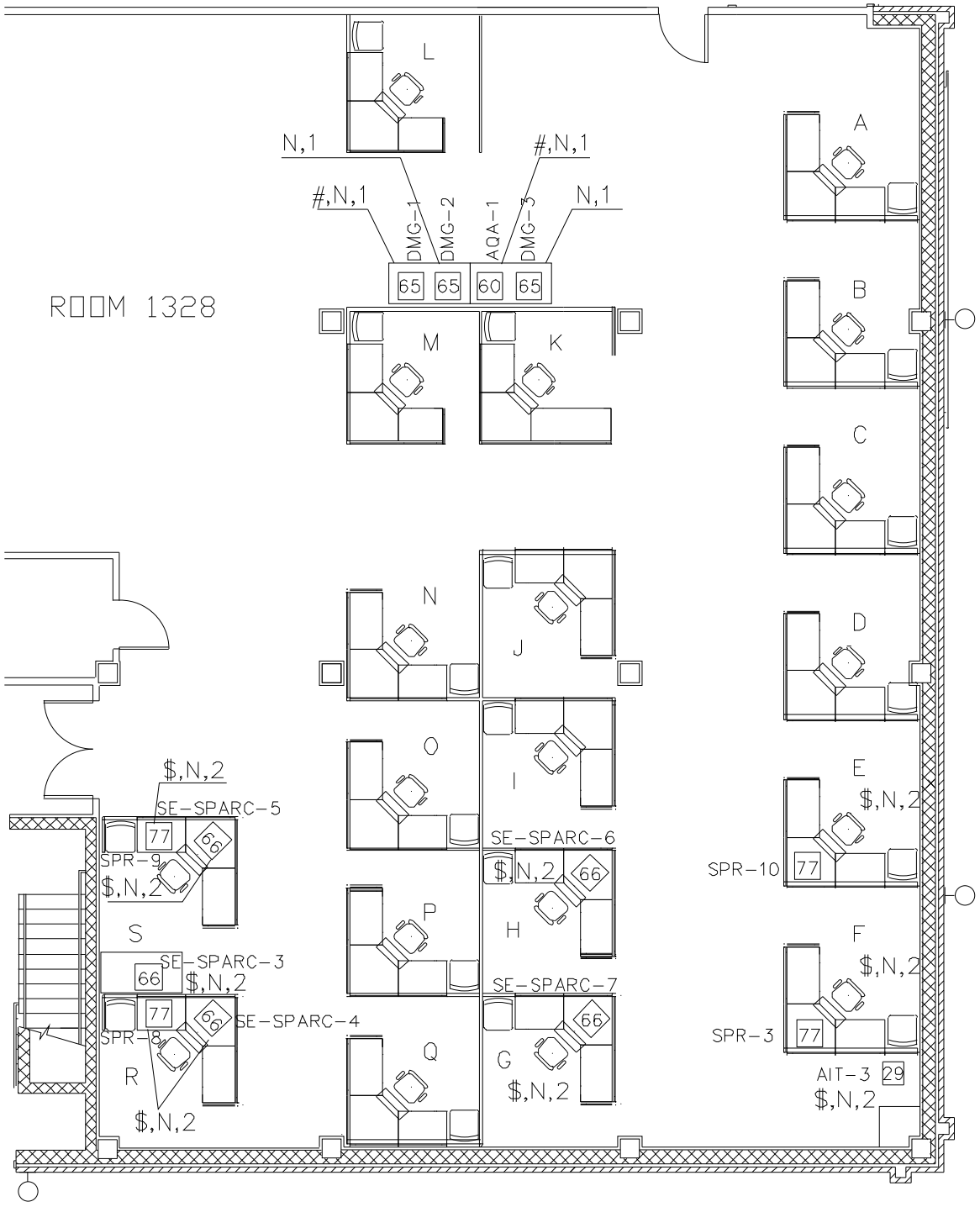


Figure 3.9-4. Floor Plan for LaRC (Room 1328)

Figure 3.9-5 depicts the ECS allocated offices for M&O Sustaining Engineering and support staff (Rooms 105-107 and 116-121.) This figure identifies the locations at which furniture, data jacks, and power receptacles must be placed. Equipment ID Codes are located in Tables 3.7-1 and 3.7-2. The ECS VO data migration team will also be located in these offices.

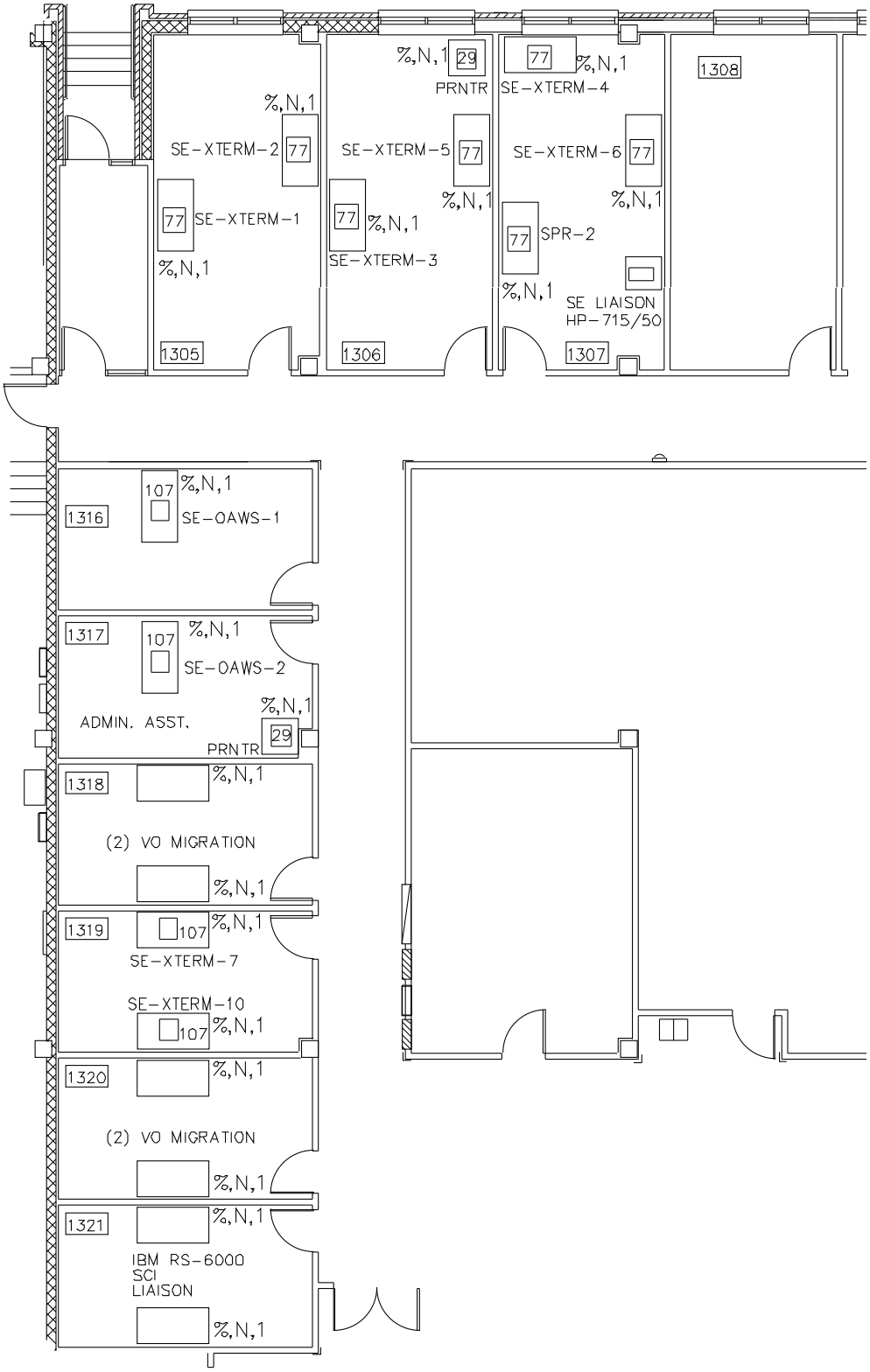


Figure 3.9-5. Floor Plan for LaRC (First Floor Offices)

3.10 Power

The electrical power loads for ECS equipment at LaRC are listed in Table 3.10-1, "LaRC Equipment Power Requirements." Power required is 208/120 volts. This power should be conditioned to protect the equipment from surges and spikes. Specific details (i.e. volts, phases, amps, receptacles) of the power requirements for each equipment item is furnished in Table 3.7-2.

Table 3.10-1 LaRC Equipment Power Requirements (KVA)

	Release A	Release B	Releases C&D	Total KVA at Completion
LaRC Rm 203	106	191*	224*	224*
LaRC Offices	19	39*	39*	39*

***** Estimated

3.11 Uninterruptible Power Supply (UPS) Systems

LaRC plans to provide UPS systems to support ECS equipment. This will allow for controlled shutdown and the backup of critical data. UPS systems will accomplish the following:

- Condition power to negate surges, spikes, and other power fluctuations that may adversely affect computer hardware operation and data quality.
- Provide power during outages of short duration to allow time for controlled shutdown and switch over to auxiliary backup power, if available.
- Enable systems to remain operational during electrical storms or when commercial power is unstable

3.12 LAN Connectivity

Figure 3.12-1 identifies the planned Release A equipment connectivity with the DAAC's network. Figure 3.12-2 shows the M & O network configuration for the LaRC DAAC. Figure 3.12-3 depicts the LaRC Ir1 hardware configuration.